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ABSTRACT

Department activities in the areas of instruction, research and special training, and professional service are described in this annual report on vocational and technical education at the University of Minnesota. An introduction describes the organization and governance, resources (fiscal, staff, and facilities), and planning for the department, which offers instructional programs in the fields of agriculture, business, distributive, home economics, and industrial education at the baccalaureate, master's, specialist, and doctoral levels. In the section on instruction, figures on student registration, number of degrees awarded, and placement of graduates are listed for each year, 1972-77, and the instructional programs are briefly described: undergraduate and graduate-level degree programs and off-campus instruction. Program development and evaluation activities are also outlined for 1976-77 when the department served 527 on-campus students and 1,300 employed vocational teachers in off-campus courses. The research section lists department-sponsored and externally sponsored research, development, and dissemination projects with director, funding agency, and amount of annual support for each. Professional services to the university and to external agencies are described in the final section, which includes lists of faculty publications and professional activities of the individual members. A personnel directory is appended. (JT)

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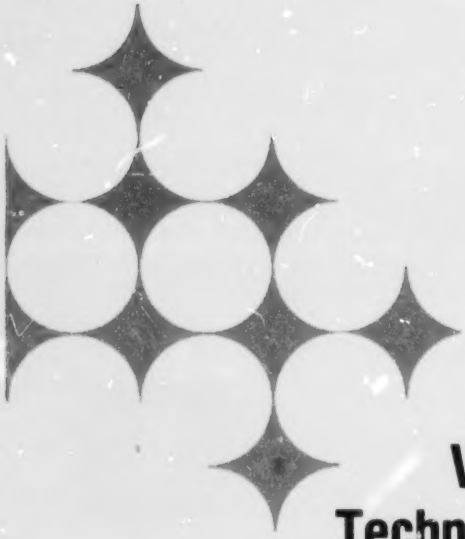

Vocational and Technical Education

Annual Report 1976-77

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Jerome Moss, Jr.

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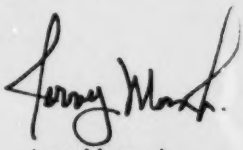
PREFACE

This is the third annual report of the Department of Vocational and Technical Education. Like the first two reports, it has several purposes. We hope it will aid our colleagues throughout the nation to better understand our role. It should help clients appreciate the scope of the Department's activities. And it should account to the faculty and administrators of the College and University, and the state legislature, for the resources they have given to us, as well as create a recognition of our limitations. But most importantly, it constitutes a significant part of the information base that will help the faculty plan for the future.



Jerry Moss, Jr.
Professor and Chair
Department of Vocational and
Technical Education

INTRODUCTION

Mission

The mission of the Department — to improve the practice of vocational and technical education — is carried out through the performance of four tasks:

1. A primary task is the creation, development, and testing of important ideas relevant to vocational and technical education.
2. The Department provides undergraduate and graduate programs for the initial preparation, updating, and upgrading of vocational and technical education professional personnel, and for contributing to the preparation of personnel in other fields. Special attention is given to identifying and meeting needs for the highest levels of professional training.
3. In order to extend its influence upon vocational and technical education and enhance its own capabilities, the Department seeks to share specialized knowledge and skills with appropriate individuals, organizations, and agencies at the local, state, national, and international levels.
4. In order to maximize its contributions to the field, the Department regularly reassesses its tasks and priorities and its ongoing programs.

Instructional programs are offered in the fields of agricultural, business, distributive, home economics, and industrial education at the baccalaureate, master's, specialist, and doctoral levels. Courses for the certification of nondegreed vocational teachers are also taught.

Organization

The Department of Vocational and Technical Education is one of seven departments in the College of Education. It was formed in July 1974 in order to transform the existing federation of vocational departments within the College into a single, fully coordinated unit. Academic staff hold rank and tenure in the Department; all resources are requested, allocated, and accounted for by the Department; and the Department is responsible for planning, managing, and evaluating all of the programs conducted by its faculty.

Administrative Structure

In order to maximize the effectiveness of service to several constituencies, utilize its resources efficiently, and facilitate relationships within the College and University, units have been created within the Department to which individual faculty members of the Department are assigned. Units which conduct formal (credit-carrying) instructional programs as a principal activity are called *divisions*. Divisions recommend students for admission to

their programs, provide for advising of students, and approve faculty for teaching in their instructional programs. Units other than divisions may be named *centers* or *bureaus* as seems appropriate. Faculty on tenure track must be assigned for some portion of their time to one or more divisions.

The Chair of the Department reports to the Dean of the College. Division leaders are called *heads*, and the leaders of other units are called *directors*.

The present departmental units, or divisions (Figure 1), are Agricultural Education, Business Education, Distributive Education, Home Economics Education, Industrial Education, and the Minnesota Research and Development Center for Vocational Education (formerly the Minnesota RCU).

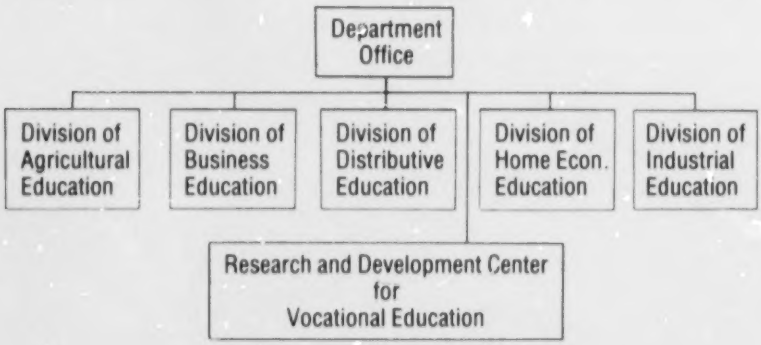

Department Office
Division of Agricultural Education
Division of Business Education
Division of Distributive Education
Division of Home Econ. Education
Division of Industrial Education
Research and Development Center for Vocational Education

Figure 1. Department Organization

Governance

Policy recommendations are brought to the faculty of the Department for vote by three standing committees. The Policy Committee concerns itself principally with the departmental mission and long-range plans, organization and governance matters, and faculty personnel policies. The Educational Programs Committee deals primarily with matters of curriculum and with degree program standards and procedures. Representatives elected by the faculty of each division serve on these committees. In addition, students are appointed to the Educational Programs Committee. The third standing committee, Graduate Studies, is responsible for interpreting and monitoring the implementation of policy and standards applicable to all the postbaccalaureate programs of the Department. The committee is composed of the director of graduate studies for each graduate degree program of the Department and two graduate students.

An Administrative Committee has also been created to advise and assist the Chair of the Department in carrying out the mission and in interpreting and implementing Department, College of Education, and University policies. The heads of divisions, and others designated by the Chair, serve on this committee.

In addition, an elected Grievance Committee, composed of faculty, clerical staff, and students, stands ready to hear complaints about working conditions and alleged violations of academic freedom and responsibility.

During 1976-77 a study investigating faculty satisfaction with the departmental governance structure and its operation was completed.[1] While general satisfaction was evident, suggestions for improvement included: (1) increasing the efficiency of committee operation (without necessarily reducing the number of faculty involved); (2) improving the feedback from committees to faculty; (3) reviewing the proportion of time faculty must be assigned to the Department for voting privileges; (4) creating mechanisms for facilitating greater faculty interaction among divisions; and (5) increasing faculty input into long-range planning activities. The Policy Committee began to discuss the findings of the study in order to determine the nature of the recommendations it may bring to the faculty.

Resources

Departmental resources necessary for effective operation are of three kinds: fiscal, staff, and facilities.

Fiscal

The amount of available recurring funds from the University for the Department has increased continuously since 1972-73 (Table 1). In 1976-77 the increase was attributable to salary and supply increments. Nonrecurring funds from the University, as well as from "other" sources (state, federal, and private) also continued to increase. The funds received for training and for research and development projects in 1976-77 represented a 20-percent gain over 1975-76. For the first time, the amount of funds received from "other" sources (external to the University) exceeded University allocations.

Table 1
Income
(In Thousands of Dollars)

Source	1972-73	1973-74	1974-75	1975-76	1976-77
University					
Recurring	$613.7	$678.3	$708.4	$766.4	$801.9
Nonrecurring[a]	32.8	40.0	207.6[c]	48.1	52.3
Other[b]					
Training Projects	117.0	187.5	248.4	382.3[d]	493.6
R & D Projects	383.8	473.9	537.1	405.8	449.3
TOTAL	$1,147.3	$1,379.7	$1,701.5 [$1,551.5]	$1,602.6	$1,797.1

[a]Includes funds from Summer Session.

[b]Contracts and grants from state, federal, and private sources.

[c]Includes a $150,000 legislative appropriation for industrial education equipment.

[d]Includes funds received through the Special Services contract for off-campus activities.

[1]Carolyn Barnhart, "Faculty Satisfaction with Their Role in Decision-Making: Department of Vocational and Technical Education." Plan B paper, Minneapolis, Minnesota: University of Minnesota, 1977.

Table 2
Staff Size[a]

Class	1973-74		1974-75		1975-76		1976-77	
	No.	FTE[b]	No.	FTE[b]	No.	FTE[b]	No.	FTE[b]
Academic	70	43.90	82	46.08	76	51.53	89	57.52[c]
Clerical	25	20.75	24	23.35	19	16.75	19	18.89

[a]Individuals on payrolls administered by the Department. Excludes undergraduate assistants and persons teaching Department courses only through Summer Session, Continuing Education and Extension, or Special Services.

[b]One FTE equals one person employed 100-percent time for at least nine months during the year.

[c]Thirty-one persons for 27.60 FTE were at the rank of assistant professor or above.

Table 3
Allocation of Staff Time[a]
(Percentage)

Activity	1972-73	1973-74	1974-75	1975-76	1976-77
Instruction	49	48	48	49	48
Research & Development	27	29	35	32	31
University Service	20	18	14	17	13
External Service	4	5	3	2	8

[a]1972-1976 percentages are based upon the plans of regular faculty for fall quarter of each year shown. 1976-77 percentages are based upon end-of-year reports for activities during the academic year by instructors or above employed at least half time in the Department.

Staff

The size of the staff of the Department over the last four years is shown in Table 2. No new regular (tenure-track) faculty positions were added in 1976-77. The growth in staff size in 1976-77 reflects increases in temporary and part-time staff employed to conduct a growing number of special training and research and development projects in the Department.

Twenty-four regular (tenure-track) faculty members held their primary appointments in the Department in 1976-77. Three additional regular faculty had part-time assignments in Vocational and Technical Education. These 27 individuals contributed the equivalent of 25.1 full-time faculty members. All but one of the 27 regular faculty members were fully supported by recurring funds provided to the University by the state legislature. The remainder of the 89 academic staff in the Department are temporary employees, full- and part-time (mainly graduate students), who serve in instructional, administrative, or research capacities and are supported by both recurring and nonrecurring funds.

Three search committees, initiated in 1975-76, continued their activities during 1976-77 seeking to fill four regular faculty positions at the assistant

professor level — two for assignment to Home Economics Education, one for assignment to Distributive Education, and one for joint assignment to Business Education and Distributive Education. Marilyn Rossmann and Ruth Thomas, both of whom received their doctorates at the University of Minnesota, were employed at the close of the year to begin assignments in Home Economics Education in 1977-78. As the result of a need for the University to retrench a total of 147 faculty positions for 1977-78, the position in Distributive Education was lost to the Department before it could be filled. The search for the joint position in Business Education and Distributive Education was discontinued during the year when it became evident that the long-range needs of the Department and the field would be better served by employing an individual with both special education and vocational education competencies. Consequently, a new search committee was formed and began to seek qualified candidates; the committee activities will continue during 1977-78.

No regular faculty member left the Department in 1976-77 despite the fact that several received attractive job offers from other institutions. Thus, the Department looks forward to beginning the 1977-78 year with 29 regular faculty members, and a search committee seeking a thirtieth person for work in the "special needs" area. On the other hand, the Department anticipates the retirement, early in 1977-78, of Dr. Milo Peterson. Professor Peterson has had a long and illustrious career in agricultural education at the University and has been a national leader in vocational education. His absence will represent a serious loss to the Department.

Table 3 reveals how the 27 regular faculty members allocated their time in 1976-77 and compares it with how regular faculty in the Department planned to allot their time in the previous four years. The time devoted to instruction has remained constant, but there have been some fluctuations in the other functions. The most striking change in 1976-77 is the increase in time devoted to external service in the state (e.g., working with vocational teachers and administrators in consultative, counseling or dissemination roles). Faculty reported working an average of 55.8 hours per week.

Several special staff development activities were undertaken in 1976-77. In order to enhance their effectiveness as a team, the Administrative Committee and the chairpersons of the other standing committees of the Department spent several days in an intensive workshop designed to improve interpersonal relations. In addition, the clerical staff of the Department continued to attend seminars designed to improve their abilities to relate to each other, as well as to students and faculty. Professor Emma Whitehead was awarded a single-quarter leave, which she spent at the University of Illinois and at the Center for Vocational Education studying the preparation of home economics teachers to serve special needs students.

Facilities

In the winter of 1976 the state legislature voted to require the University to conduct a study to determine the feasibility of remodeling an existing building or constructing a new building to house the programs of the Department and to report its recommendations, including site, square-foot requirements, and cost, to the 1977 legislature. A building advisory commit-

tee was formed by the University to conduct the mandated study. The committee worked during the spring and summer months of 1976 and on into the 1976-77 academic year, finally submitting its University-approved recommendation to the legislature in January 1977. The recommendation called for all the units of the Department to occupy a building on the St. Paul campus.

Building plans were to completely renovate an existing structure (the Livestock Pavilion, containing about 27,000 square feet) and to add 73,000 square feet in new construction, making a total building of 100,000 square feet. Total estimated cost is 6.8 million. Approximately $275,000 was requested from the 1977 legislature so that working drawings could be prepared. The 1977 legislature did not consider this request, but indicated that it would take it up during the 1978 session. The University capital improvement request to the 1978 legislature does ask for $295,537 to prepare working drawings for a $7.4 million building for the Department (dollar increases in the request are due to escalating construction costs).

Planning

Efforts at improving the Department's capacity to plan, and at planning, took four forms in 1976-77. First, a management information system, which had been in the development and try-out stage for nearly three years, entered the operational stage. Procedures were regularized for gathering and analyzing (by hand) certain input, process, and output data. The data yielded has proven useful in responding to requests for information, in documenting requests for resources, and in demonstrating accountability for resources received. On the other hand, although input, process, and product data provide a very valuable general context within which specific decisions concerning resource requests and allocations can be made, they have not proven directly applicable in making these decisions. Consequently, various kinds of "efficiency" measures have begun to be developed (primary input/output ratios for instructional efficiency) to determine whether or not the data in this form will be more helpful. Second, the Policy Committee has continued to review the Department mission statement and to develop and revise a statement of context and priorities. While the faculty has tentatively approved the most recent revision of the mission statement, debate still prevails over a more specific delineation of the Department's priorities during the next five to ten years. Third, the data from the management information system and the discussions within the Policy Committee were used by the Administrative Committee to help make necessary resource request and allocation decisions during the year. These decisions reflect the view that maximum increases in the Department's effectiveness can be attained by improving its capacity to serve vocational personnel who deal with special needs students (thus the decision to search for a new faculty member with both special education and vocational education competencies) and with vocational administrators, and to strengthen its support services so as to increase faculty efficiency. Fourth, and finally, a study was initiated to determine the expected demand in the state for the kind of new teachers produced by the undergraduate programs of the Department in order to assess the balance of future supply and demand.

Input: On-Campus/Off-Campus Students Served

Table 4 shows that 527 different students were registered in the fall of 1976 for courses offered on-campus by the Department: 225 of these students had been formally admitted to one of the six undergraduate degree programs in the Department, and 137 students were undergraduate non-majors, 107 of whom intend to complete formal admission as majors in the Department. One hundred twenty-four students who took classes in the fall had been formally admitted to one of the graduate degree programs of the Department, while 41 other postbaccalaureate-level students were just attending classes.

The general trend of decreasing numbers of undergraduate majors and increasing numbers of graduate students has continued through 1976-77. Thirty-five percent of the majors in the Department who registered in the fall of 1976 are now graduate students. The shift to higher proportions of graduate students is consistent with the College-wide trend.

A computer search of the records in the Office of Admissions and Records was undertaken to determine some of the characteristics of the undergraduate students majoring in the Department's programs in 1976-77. The results may be compared with a survey of students who were

Table 4
Number of Students Registering per Quarter
for On-Campus Classes

Category	Avg. No. Registering Each Qtr			Fall 1975	Fall 1976
	1972-73	1973-74	1974-75		
MAJORS[a]					
Baccalaureate	317	290	264	250	225
Graduate[b]			85	112	124
Sub-total	317	290	349	362	349
NON-MAJORS					
Baccalaureate				122	137[c]
Graduate and Adult Special				20	41
Subtotal				142	178
TOTAL	317	290	349	504	527

[a]Includes only students formally admitted to a degree program in the Department.

[b]Includes M.Ed., M.A., Ed.S., Ed.D., and Ph.D. students.

[c]Includes 90 students who have declared their intention to major in agricultural education and 17 who intend to major in home economics education.

registered in on-campus classes during the fall of 1975: (1) In 1976-77, 64 percent of all undergraduate majors resided in the seven-county metropolitan area at the time of application to the University (it was 62 percent in fall 1975); (2) 71 percent in 1976-77 are between 20 to 25 years of age, and 28 percent are over 25 years (in fall 1975, 74 percent were 20 to 25 years of age, and 16 percent were over 25 years); (3) 78 percent of the undergraduate majors in 1976-77 took over 12 credits per quarter (while 87 percent took over 12 credits per quarter in fall 1975).

An estimated 1,300 employed vocational teachers enrolled in Department courses taught off-campus in 1976-77. The principal purpose of these courses was to help improve on-the-job performance. The course credits were used by students mainly to obtain or to retain teaching licenses from the Vocational Division, Minnesota Department of Education.

Process: On-Campus/Off-Campus Instruction

On-Campus Instruction

Undergraduate Degree Programs. Six undergraduate degree programs are offered through the Department:

1. A major in agricultural education is offered jointly by the College of Agriculture and the College of Education. Completion of the sophomore year is a requirement for admission to the degree program. The degree is designed for students who plan to teach agriculture or horticulture in secondary and postsecondary schools.
2. Students are admitted to a major in business education after completing at least 45 credits (in the freshman year). They may elect one or more of the following options: accounting and data processing, basic business and/or economics, comprehensive business, comprehensive business (without shorthand), vocational office certification, cooperative office education, and model/simulated office.
3. Both a major and a minor option are offered in distributive education to students who have completed at least 45 credits (in the freshman year) in a liberal arts area and who have had prior work experience in a distributive occupation.
4. The degree program in home economics education is offered jointly by the College of Home Economics and the College of Education. Students intending to major in home economics education register for the first two years in a program of home economics. Three options are then provided for students who gain admission to home economics education: consumer homemaking, family life, and occupational education (including child care and development, food service, and textiles and clothing).
5. A major in industrial education is available to students who have completed 45 credits. Graduates are recommended for a standard special certificate to teach industrial (arts) education.
6. Admission to a program with a major in vocational-industrial education requires completion of 45 credits and sufficient (verified) occupational experience to be certifiable as a vocational-industrial

education teacher in a Minnesota area vocational-technical institute. Graduates completing this major are certified to teach in secondary and postsecondary programs.

Graduate-Level Degree Programs. Five different graduate degrees are offered through the Department:[2]

1. The College of Education awards the Master of Education (M.Ed.) degree to students who satisfactorily complete programs of advanced study with majors in the following four fields: agricultural education, business education, distributive education, or home economics education. The M.Ed. degree is intended to help qualified personnel function more adequately in their *present* role in their *present* position; it is not an initial certifying degree.
2. The Master of Arts (M.A.) degree may be earned through the Graduate School with a major in agricultural education, business education, distributive education, home economics education, or industrial education. The M.A. is an advanced degree program designed for educators who wish to enhance the scope, depth, or level of professional performance.
3. The Specialist Certificate (Ed.S.) may be earned through the Graduate School in the fields of business education and distributive education. The purposes of the programs are to prepare persons for leadership positions and to help meet the manpower demands for trained practitioners in instructional/supervisory positions.
4. The Doctor of Education (Ed.D.) degree is awarded by the Graduate School in the fields of vocational education and industrial education in recognition of completion of academic preparation and demonstrated competence for professional activity. The degree is usually called a "practitioner's degree" since it involves *using* rather than *producing* knowledge and is designed to prepare individuals for high-level administrative or instructional/supervisory roles.
5. The Doctor of Philosophy (Ph.D.) degree is awarded by the Graduate School in the fields of vocational education and education. The degree is granted on the basis of high attainment and ability in the field. The Ph.D. degree is intended to prepare individuals for leadership roles which require the use of tools and concepts of inquiry and analysis, such as research, evaluation, and curriculum development.

Enrollment in the graduate program, excluding adult special registrants and students not yet formally admitted to a degree program, includes an estimated 423 active students, or those who have registered at least once during the two-year period ending June 15, 1977. Of these, 107 are enrolled in the M.Ed. program with majors in agricultural education, business education, distributive education, and home economics education; 187 in the M.A. program with majors in agricultural education, business education, distributive education, home economics education, and industrial education; 1 in

[2]For a complete description, see *Graduate Degree Programs in Vocational and Technical Education*. Minneapolis, Minnesota: Department of Vocational and Technical Education, University of Minnesota, November 1974.

Off-Campus Instruction

The Department is now operating under a five-year contract with the Minnesota State Board for Vocational Education. The contract calls for the Department to provide "special" services to vocational educators in the state and for the state board to subsidize the cost of providing these services. "Special" services are defined as services not available to other fields of education with funds appropriated to the University by the state legislature. Special services, therefore, include such instructional and non-instructional activities as off-campus courses, consultation, curriculum development, assistance (counseling and instruction) to individual teachers, and so forth. The following special services were provided during 1976-77:

1. Ninety-five credit-bearing courses were provided off-campus to 1,627 students (Table 6). The decrease in volume from 1975-76 is probably due to the decrease in the rate of employment of new, nondegreed vocational teachers.
2. The nine-week internships of 15 nondegreed secondary vocational teachers were supervised.
3. Thirteen regular faculty spent the equivalent of 3.8 FTE providing noncredit-producing services, such as consultation, counseling, workshops, and curriculum development.
4. Coordination with state staff and school personnel, and written and oral information about services for employed teachers, were provided.
5. The course in "Philosophy and Practice of Vocational Education" was formally evaluated (by collecting data from former students), and a year-long tryout of performance-based teacher educator modules (packaged for individual instruction) was completed.

In all, 45 different faculty were involved in providing special services throughout the year; 30 were regular or temporary staff and 15 were adjunct staff. Eighty-five percent of the graduate-level (5000-level) courses were taught by regular faculty. Student evaluations of instruction, required for every course taught off-campus, revealed a high level of student satisfaction with them.

Program Development

Several major program development activities were initiated during the year.

The College and the Graduate School mandated that no new students will be admitted to the existing (umbrella-type) Ph.D. in education degree after September 15, 1978, but they have invited proposals for new Ph.D. in education degree programs that are designed to serve the special needs of clearly defined, distinguishable groups of students in education. A subcommittee of the Graduate Studies Committee was therefore charged with responsibility for formulating a proposal for a new Ph.D. in education degree program that would serve the particular needs of students interested in the general education aspects of the vocational fields (e.g., industrial arts, consumer education). The proposal is due for faculty review in the fall of 1977.

Because of the growing number of advanced graduate students in vocational education who wish to become curriculum development specialists, an ad hoc committee was formed to determine whether any areas of competence needed by that group could not already be obtained within the University, and, if there were important gaps, to propose how they might be filled.

For several years faculty of the Department have conducted a series of research and development projects in the areas of program planning and entrepreneurial training. Special summer courses in these topics have already been given. Since there is a growing need in the field—which promises to be continuous—for instruction in these topics, the faculty concerned have been requested to develop and propose regular course offerings.

Product: Degrees Awarded and Graduate Placement

Degrees Awarded

Records which show the number of employed vocational educators who earn initial licensure or renewed licensure each year as a result of instruction provided by the Department are not kept. In light of the extent of the Department's off-campus instructional effort, this would be an appreciable number. Information about program completers is therefore limited to the number of degrees awarded annually from the Department's baccalaureate and graduate programs (Table 7). The number of baccalaureate degrees awarded has been decreasing, which reflects the decrease in the number of undergraduate majors enrolled in the Department. On the other hand, the number of graduate degrees awarded has been slowly rising, which reflects the increased enrollment of graduate students.

The following is a list of the 14 students who were awarded the doctorate during 1976-77 in one of the degree programs provided by the graduate faculty of the Department.

Table 7
Instructional Output: Degrees Awarded

Degree	1972-73	1973-74	1974-75	1975-76	1976-77
Baccalaureate	158	150	121	118	113
Master's & Specialist	27	22	39	39	41
Doctorate	13	12	16	13	14

Doctoral Degrees

Michael R. Bachler. Ed.D. in industrial education. Thesis: Updating and revising the drafting program at Middle Tennessee State University. Major adviser: Jerome Moss, Jr.

Thomas B. Duff. Ph.D. in education. Thesis: Measurement of personal economic understandings developed in basic business. Major adviser: Charles Hopkins.

Earl E. Halvas. Ph.D. in education. Thesis: Relationships among office education environment, achievement, attendance, socioeconomic status and sociometric status. Major adviser: Charles Hopkins.

Edward G. Hill. Ed.D. in industrial education. Thesis: Guidelines for developing and implementing a vocational-technical school safety program within current state and federal safety regulations. Major adviser: Brandon Smith.

William Hohenhaus. Ph.D. in education. Thesis: Developing and evaluating a procedure for identifying, sequencing, and determining an instructional environment for the competencies needed at various occupational levels in the retail industry in Minnesota. Major adviser: R. Paul Marvin.

Uyunmwuigbebe Imade. Ph.D. in education. Thesis: Planning technological and vocational education for youth in Nigeria. Major adviser: David C. Bjorkquist.

John R. Kobe. Ph.D. in education. Thesis: An analysis of competencies necessary for adult vocational education instructors who teach in programs reimbursed by the Minnesota State Department of Education. Major adviser: Richard D. Ashmun.

Herbert Murphy. Ed.D. in vocational education. Thesis: A comparison of program outcomes of mainstreamed categories of handicapped with non-handicapped students in Minnesota AVTIs. Major adviser: David J. Pucel.

Rodger E. Palmer. Ph.D. in vocational education. Thesis: A benefit-cost study of an education investment in small business. Major adviser: Edgar A. Persons.

Peter Probasco. Ph.D. in education. Thesis: Relationship of entrepreneurs' knowledge of economic principles and their attitudes toward education and risk taking. Major adviser: Edgar A. Persons.

Paul O. Renshaw. Ph.D. in vocational education. Thesis: Basic marketing and marketing related knowledge needs of secondary school distributive education instructional personnel. Major adviser: Warren Meyer.

Marilyn A. Rossmann. Ph.D. in education. Thesis: Job relatedness as a criterion for assessing vocational program effectiveness. Major adviser: Jerome Moss, Jr.

John Van Ast. Ed.D. in vocational education. Thesis: Cognitive style mapping: Its use in vocational instructor selection and guidelines. Major adviser: David J. Pucel.

Richard E. Zackrison. Ph.D. in vocational education. Thesis: Adult distributive education instructor behavior and effectiveness as perceived by students. Major adviser: Warren Meyer.

Placement of Graduates

A second index of the product of instruction is the placement record of program graduates. Table 8 presents these data for graduates with baccalaureate degrees for each of the last five years. The general employment level appears to remain as high as ever; however, those finding employment in teaching dropped a little in 1975-76. If more of the graduates who wish to be employed as teachers were willing to leave the metropolitan area, the percentage of placement in teaching would be higher. (Note that 92 percent of those finding teaching jobs were employed in Minnesota.)

Records are kept of the first job secured by graduates with advanced degrees (Table 9). Only two of the graduates were unavailable for employment; the remainder found positions in education. Seventy-eight percent of these positions were in Minnesota.

Table 8
Placement of Graduates with Baccalaureate Degrees
(Percentage)

Measure	1971-72[a]	1972-73[b]	1973-74[c]	1974-75[d]	1975-76[e]
Employed/All Respondents	82	81	94	91	92
Employed/All Respondents Seeking Employment		92	98	97	96
Employed in Teaching/All Respondents	71	67	75	71	64
Employed in Teaching/All Respondents Seeking Teaching Jobs	82	91		82	78

[a]Surveyed in October 1972.

[b]Surveyed in November 1973; 87 percent of those teaching were employed in Minnesota.

[c]Surveyed in April 1975; based upon 90-percent response rate.

[d]Surveyed in October 1975; based upon 98-percent response rate.

[e]Surveyed in October 1976; based upon 98-percent response rate; 92 percent of those teaching were employed in Minnesota.

Table 9
Placement of Graduates with Advanced Degrees
(Percentage)

Type of Position	1974-75[a]			1975-76[b]			1976-77[c]		
	Minn.	Other	Total	Minn.	Other	Total	Minn.	Other	Total
Higher Education	20	7	27	21	16	37	22	15	37
School Administration and Supervision	12	16	28	10	2	12	10		10
School Teaching	25	2	27	40	2	42	39	5	44
Business/Industry/ Government	2	9	11	9		9	5	2	7
Not Available for Employment	5	2	7				2		2
TOTAL	64	36	100	80	20	100	78	22	100

[a]Based upon information about 44 graduates in 1974-75 who earned M.Ed., M.A., Ed.S., Ed.D., and Ph.D. degrees with a major in a vocational field.

[b]Based upon information about 43 graduates in 1975-76 who earned M.Ed., M.A., Ed.S., Ed.D., and Ph.D. degrees with a major in a vocational field.

[c]Based upon information about 41 graduates in 1976-77 who earned M.Ed., M.A., Ed.S., Ed.D., and Ph.D. degrees with a major in a vocational field.

Program Evaluation

The many contacts faculty make with former students and other employed vocational personnel in the state through their special service (off-campus) activities provide regular feedback from practitioners about the quality and relevance of the Department's instructional programs. Faculty also secure student evaluations for at least one on-campus course each year and for all courses taught off-campus.

In addition to these continuing mechanisms, several special evaluative efforts were made during 1976-77. Dr. Carl Schaefer, professor of vocational education at Rutgers University, was invited to spend the winter quarter on campus to learn about and critique the Department's operation. His overall judgments were flattering, and his ideas for constructive change (e.g., strengthening the sequence of graduate courses designed for vocational administrators) are being implemented.

All of the divisions of the Department, except Business Education, conducted a formal evaluation of their undergraduate programs. In Agricultural Education current and former students, employers, and faculty were interviewed by a student for his doctoral field study.[3] Distributive Education and Home Economics Education formed advisory committees to review their curriculums; the former met for about three days in a concentrated fashion, while the latter met five times over an extended period. Industrial Education utilized an ad hoc group of teachers and other teacher educators to review program materials and then to make a two-day site visit. A graduate student also completed a follow-up study of former industrial education students who received baccalaureate degrees between 1973 and 1975.[4] The useful outcomes of all these evaluative efforts are being incorporated into the Department's undergraduate programs.

Outlook

The unexpected reduction by the state legislature of 147 faculty positions for the 1977-78 academic year, as a result of enrollment declines at the University, signalled the need for academic units to look carefully at the efficiency of their operation. Consequently, during the spring quarter the Administrative Committee outlined several areas of practice that should be explored to determine whether revisions might result in improved instructional effectiveness and/or efficiency in the Department. These areas to be investigated included curriculum, course scheduling, recruitment, and faculty assignments, among others. The Policy Committee and Educational Programs Committee concurred in the need to begin such an investigation. An ad hoc Curriculum Review Committee will therefore be formed and its members given some assigned time during the fall quarter of 1977-78 to conduct the investigation and to formulate recommendations for faculty consideration as early as possible in the 1977-78 academic year.

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[3]William Field, "A Review of the Undergraduate Program in Agricultural Education at the University of Minnesota," Ed.D. degree, Minneapolis, Minnesota: University of Minnesota, 1977.

[4]Steven R. Frederickson, "A Follow-up of University of Minnesota Industrial Education Baccalaureate Graduates Directed Toward Undergraduate Program Decision Making," Plan B paper, Minneapolis, Minnesota: University of Minnesota, 1977.

RESEARCH AND SPECIAL TRAINING

Administration

A primary function of the Department is the creation, development, and testing of important ideas relevant to improving vocational and technical education. Since the conduct of research and special training projects is one very effective way of carrying out this function, *all* faculty are strongly encouraged to engage in projects of that kind, and whenever practical, to seek external funds to help support their efforts.

The Research and Development Center for Vocational Education (formerly the RCU) is an administrative unit of the Department to which faculty have been assigned for a part of their time. The MRDC is supported by the University and by external agencies, the most important of which is the Minnesota Board for Vocational Education. The board, under a continuing agreement with the University, provides a minimum of $125,000 annually to fund the research-related activities of the MRDC (with additional support the rule rather than the exception). The director of the MRDC submits an annual program budget to the state board for approval, specifying the projects to be conducted each year with state board funds. MRDC projects are programmatic in nature and include research, development, evaluation, dissemination, and research training activities.

Most of the research and special training projects of the faculty, however, are carried out as a part of each division's activities, or perhaps as joint

Table 10
Department-Sponsored Research, Development, and Dissemination Projects
1976-77

Title	Director	Support
Content, methodology background, and perceived competencies of data processing teachers in Minnesota and Wisconsin	Judith Lambrecht Gary McLean	$ 549
Skills inventory for agricultural education majors	Gary Leske Roland Peterson	3,600
Time utilization by beginning and experienced vocational agriculture teachers	Gary Leske Roland Peterson	1,200
Evaluation of first-year shorthand achievement	Judith Lambrecht	1,000
Evaluation of second-year shorthand achievement	Judith Lambrecht	4,689
Analysis of the professional reading habits of selected educator groups and analysis of publishing policies of selected professional journals	Tim Wentling	3,400
TOTAL		$14,438

division efforts. The time a faculty member spends on a project comes from the time he or she has been assigned to a particular division. In some cases, because of their special nature, projects can be attached directly to the Department office rather than being administered through a division or the MRDC.

Faculty Projects

Support for faculty projects depends upon funding by the Department and sources external to the University. During 1976-77, six departmentally funded research, development, and dissemination projects were conducted by five faculty members; the total support for these projects amounted to $14,438 (Table 10). Research and training projects which were supported, at least in part, by sources external to the Department totaled $942,902; this amount exceeds the 1975-76 figure and continues the steady gains enjoyed since 1972-73 (Table 11).

Table 11
Externally Sponsored Research and Special Training Projects
1976-77

Project	Director(s)	Funding Agency	Annual Support
RESEARCH OR DEVELOPMENT			
Development and coordination of a vocational funding formula: Adult	B. Smith G. Copa	Minnesota Department of Education	$18,480
Development and coordination of a vocational funding formula: Secondary	B. Smith G. Copa	Minnesota Department of Education	9,406
Minnesota Research Coordinating Unit	B. Smith	Minnesota Department of Education	112,000
Project SPACE: Phase II	B. Smith G. Copa	Minnesota Department of Education	30,047
Conducting a follow-up of 1975 high school leavers in Minnesota	G. Copa	Minnesota Department of Education	36,190
A 30-year view of Minnesota Vocational Education	B. Smith	Minnesota Department of Education	3,300
Implement an objective review of the undergraduate home economics education program	J. McFadden	Educational Development Program	2,450
Preparing home economics teachers to meet the challenge of mainstreaming exceptional and/or special needs students in Minnesota secondary schools: Phase II	E. Whiteford	Minnesota Department of Education	23,185
Entrepreneurship education for adults: Development and implementation	E. Persons G. Swanson	U.S. Office of Education	133,000
Minnesota high school follow-up project	G. Copa D. Irvin	Minnesota Department of Education	42,672
Development of a state property management system	B. Smith G. Copa	Minnesota Department of Education	$11,044
Review of research on funding vocational education	B. Smith G. Copa	Minnesota Department of Education	5,500
Statewide assessment of perceived need for additional job training beyond high school	G. Copa	Minnesota Department of Education	21,979
SUBTOTAL			$449,253
SPECIAL TRAINING			
Special support for vocational teacher education	D. Pucel	Minnesota Department of Education	$205,000
Initial inservice for nondegreed postsecondary vocational instructors	D. Pucel	U.S. Office of Education	9,720
Graduate fellowship program in leadership development	J. Moss, Jr. G. Swanson B. Smith	U.S. Office of Education	72,400
Minnesota leadership development project for vocational home economics "change agents"	J. McFadden	Minnesota Department of Education	30,747
Program development and inservice for hospitality and recreation occupations and for personal service occupations in Minnesota	J. McFadden	Minnesota Department of Education	32,533
Consumer homemaking technical assistance project	J. McFadden	Minnesota Department of Education	10,546
Consumer homemaking inservice project	J. McFadden	Minnesota Department of Education	25,655
National project for improving instructional capabilities to prepare vocational education leaders and teachers	G. Swanson	U.S. Office of Education	107,048
SUBTOTAL			$493,649
TOTAL			$942,902

PROFESSIONAL SERVICE

University and External Service

In addition to serving on numerous program development and governance committees *within* the Department (and division), faculty also served on a wide variety of College of Education and University committees. Nineteen of the 27 members of the regular faculty held 17 assignments on College of Education committees, 16 assignments on committees of the Colleges of Agriculture and Home Economics, and 14 assignments on University-wide committees.

Table 12 reveals the extent to which regular faculty members of the Department undertook organizational responsibilities and consulting/advising assignments during the last three years. Organizational assignments include elective positions and committee memberships in professional societies, governmental agencies, and other institutions. Consulting/advising assignments are usually shorter, less regular, but more intensive experiences.

Table 12
Professional Service to External Agencies
(Number of Assignments)

Agencies Served	1974-75			1975-76			1976-77		
	Organizational Service	Consulting Service	Total	Organizational Service	Consulting Service	Total	Organizational Service	Consulting Service	Total
State & Local	22	29	51	20	29	49	17	44	61
Regional		5	5	2	8	10	2	1	3
National	30	18	48	22	25	47	30	45	75
International	2		2	1	3	4		1	1
TOTAL	54	52	106	45	65	110	49	91	140

Nineteen regular faculty members undertook 49 organizational assignments in external professional groups, and 20 faculty provided 91 consulting/advising services to various groups in 1976-77. Since these activities are invitational, their number is one index of the professional leadership being given by the faculty and an indication of the degree of service provided the national and international vocational education community, as well as the state.

In addition to the activities tabulated in Table 12, three faculty members spent some time at other institutions as visiting professors: Professor Judith Lambrecht at Brigham Young University, Professor David Pucel at Florida International University, and Professor Gordon Swanson at Texas A & M University.

Four faculty also served in major elective offices in professional organizations during 1976-77: Professor David Bjorkquist as vice president of the

National Association of Industrial and Technical Teacher Educators; Professor Jerome Moss, Jr. as president of the University Council for Vocational Education; Professor Brandon Smith as president of the American Vocational Education Research Association; and Professor Gordon Swanson as president of the American Vocational Association.

Finally, several faculty members received special recognition from colleagues, staff, or students during the year that deserve mention: Professor Forrest Bear was given a "Meritorious Achievement Award" by the Minnesota Safety Council; Professor Mary Klaurens was given a "National Recognition Award" by the Distributive Education Clubs of America; Professor Judith Lambrecht received the Alpha Chapter, Delta Pi Epsilon award for the best business education article of the year; Professor Gary McLean was given an "Outstanding Contribution Award" by the University of Minnesota Twin City Student Assembly for extra academic student leadership and service; Professor Jerome Moss, Jr. was made "Boss of the Year" by the Minneapolis Chapter of the National Secretaries Association; Professor Milo Peterson received a "Distinguished Certificate" from the Agricultural Education Teacher Educators of the Central Region; and Professor Tim Wentling won an AERA award for the "most unique reporting technique" used in an evaluation report.

Table 13
Presentations at Professional Meetings

Level	1974-75	1975-76	1976-77
State	34	31	32
Region	24	22	20
National and International	25	30	27
TOTAL	83	83	79

Presentations

Two of the means by which scholarly inquiry may be disseminated are presentations at professional meetings and publications. Table 13 reveals the extent to which the faculty has utilized the media of presentations.

Publications

The publications of Department faculty during 1976-77 are listed below.

Ashmun, R. D. Contribution of distributive education to the individual. *Distributive Education Clubs of America (DECA) guide*, 1976-77 school year edition, 35-39.

Bear, W. F. Inventorying and ordering agricultural mechanic shop supplies. *Agricultural Education*, March 1977, *49*(9).

Bear, W. F. Tool inventory and replacement. *Agricultural Education*, November 1976, *49*(5).

Bear, W. F. Facility planning for vocational agriculture. *Agricultural Education*, September 1976, *49*(3).

Bear, W. F. Vocational agriculture safety checklist. *The Ag Man,* Summer 1976.

Bear, W. F., & McPhearson, J. Cost analysis of shop equipment for agricultural mechanics in Minnesota secondary schools. *Agricultural Education,* September 1976, *49*(3).

Bjorkquist, D., & Finch, C. R. Review and critique of context and input measures in evaluation. *Journal of Industrial Teacher Education,* 1977, *14*(2), 7-18.

Copa, G. H., & Geigle, E. K. *National conference for state vocational education planning staffs: A final report.* U.S. Office of Education Project MN-V-9. Minneapolis: University of Minnesota, Research Coordinating Unit for Vocational Education, November 1976.

Copa, G. H., & Kelvin, B. A. *Job selection pattern: Linkage between vocational education programs and the labor market.* Minneapolis: University of Minnesota, Research Coordinating Unit for Vocational Education, February 1977.

Copa, G. H., & Maurice, C. F. *People's need for additional job training: Procedure for assessment.* Minnesota Governor's Manpower Project No. 76-034. Minneapolis: University of Minnesota, Research Coordinating Unit for Vocational Education, November 1976.

Copa, G. H., & Maurice, C. F. *People's need for additional job training: Development and evaluation of a procedure for assessment.* Minnesota Governor's Manpower Office Project No. 76-034. Minneapolis: University of Minnesota, Research Coordinating Unit for Vocational Education, November 1976.

Erickson, R. C., & Wentling, T. L. *Measuring student growth.* Boston: Allyn and Bacon, Inc., 1976.

Hopkins, C. R., & Morton, M. A. *Hedman stenotype system: Theory and skill building, Book 1.* Chicago: Hedman Stenotype, Inc., 1977.

Hopkins, C. R., & McLean, G. N. Comparative effectiveness of three capstone office education courses using in-class measures. *The Journal of Vocational Education Research,* Summer 1976, 55-68.

Irvin, D. E. *Status of former high school students: Procedure for local assessment,* (5th edition). Minneapolis: University of Minnesota, Research Coordinating Unit for Vocational Education, December 1976.

Irvin, D. E., Copa, G. H., & Geigle, E. K. *Status of former high school students: Assessment Report 2. Critical issues in planning vocational education: A series of simulation exercises.* Minneapolis: University of Minnesota, Research Coordinating Unit for Vocational Education, September 1976.

Irvin, D. E., & Galey, S. B. *Placement assistance services: Procedures manual.* Minneapolis: University of Minnesota, Research Coordinating Unit for Vocational Education, July 1977.

Klaurens, M. K. Work motivation and the learning process. *Business Education Forum,* 1977, *31*(5), 26-28.

Klaurens, M. K. Legislation in 1976. *American Vocational Association – Distributive Education Digest*, 1976, *2*(1).

Krusemark, F. D., & Leske, C. W. *Finding your best job: An instructional guide to job seeking skills*. Minneapolis: University of Minnesota, Research Coordinating Unit for Vocational Education, January 1977.

Lambrecht, J. J., & McLean, G. N. *Content and methodology background and perceived competencies of data processing teachers in Minnesota and Wisconsin*. Final Report. Minneapolis: University of Minnesota, Department of Vocational and Technical Education, January 1977.

Lambrecht, J. J., & McLean, G. N. Content and methodology background and perceived competencies of data processing teachers. *NABTE Review*, 1977, *4*, 25-29.

Lambrecht, J. J., & McLean, G. N. Secondary and post-secondary data processing teachers: What are their data processing content in service needs? *Journal of Data Education*, October 1976, *17*, 5-7.

Lambrecht, J. J., & McLean, G. N. Secondary and post-secondary data processing teachers: How do they differ? *Journal of Data Education*, July 1976, *16*, 10-13.

Lambrecht, J. J., & Prigge, L. *This business of metrics, Unit 1*. Mountain View, California: Western Tape, 1977.

Lerwick, L. P. *An abstract of fiscal property requirements. Title 34 of the Code of Federal Regulations*. St. Paul: State Printing Office, Division of Vocational and Technical Education, 1976.

Leske, G. W. Agricultural education. In A. S. Knowles (Ed.), *The International Encyclopedia of Higher Education*. San Francisco: Jossey-Bass, Inc., May 1977.

Leske, G. W., & Orth, R. *Competencies required by dairy farm managers*. Minneapolis: University of Minnesota, Department of Vocational and Technical Education, 1976.

Leske, G. W., & Peterson, R. *Time use by vocational agriculture instructors*. Minneapolis: University of Minnesota, Department of Vocational and Technical Education, 1976.

McFadden, J. R. Competencies for home economics teachers: Selected professional competencies and means of measuring. (Chapter 3.) *National Invitational Working Clinic on Home Economics Content and Performance Criteria*. Kansas City, Missouri, February 1977.

McFadden, J. R., Richardson, W. et al. *Leadership training units for vocational youth: A teacher manual designed to provide individual and group activities for the development of leadership skills*. Springfield, Indiana: State Board of Vocational and Technical Education, Department of Public Instruction, Division of Vocational Education, July 1976.

McFadden, J. R., & Wircenski, J. Proposed technique for meeting yesterday's needs today: Mainstreaming the disadvantaged. *Journal of Teacher Education*. Fall 1977.

McLean, G. N. Relative effectiveness of model office, cooperative office, and office procedures programs. *Research Monograph No. 1 – Research in Education Applied to Classroom Teaching Seminar.* Ypsilanti, Michigan: Gamma Alpha Chapter of Delta Pi Epsilon, Eastern Michigan University, May 1976, 4-11.

Moss, J. Financing and managing in-service teacher education at the University of Minnesota. *Journal of Industrial Education, 14*(1), Fall 1976.

Moss, J. et al. *Personnel development programs for vocational education in Colorado.* Report to the Colorado State Board for Community Colleges and Occupational Education, August 1977.

Palmer, R. E. A benefit-cost study of an education investment in small business. *American Journal of Small Business,* April 1977, 43-44.

Palmer, R. E. *Instructions for completing computer data forms and documentation for the business analyst.* St. Paul, Minnesota: University of Minnesota, Division of Agricultural Education, July 1976.

Palmer, R. E., & Persons, E. A. *The development, design and evaluation of the Minnesota model for small business management.* St. Paul, Minnesota: University of Minnesota, Department of Vocational and Technical Education, 1976.

Persons, E. A. *Documentation for farm business analysis.* St. Paul: University of Minnesota, Division of Agricultural Education, 1976.

Persons, E. A. *Guidelines for using the computerized depreciation schedule.* St. Paul: University of Minnesota, Division of Agricultural Education, 1976.

Persons, E. A. *Cost study: Adult farm management programs in Minnesota.* St. Paul: University of Minnesota, Division of Agricultural Education, 1976.

Persons, E. A., & Palmer, R. E. *Small business management education for adults: An inventory of resources and recommendations for action.* St. Paul: State of Minnesota Department of Economic Development, Section B4, 1976.

Persons, E. A., Swanson, G., Palmer, R. E. et al. *Small business management.* Final Report (Vol. 4). St. Paul: University of Minnesota, Department of Vocational and Technical Education, July 1976.

Peterson, K., Copa, G., & Maurice, C. F. *Perceived needs for education beyond high school by residents of Minnesota's West Central Economic Development Region.* Minnesota Governor's Manpower Project No. 76-034. Minneapolis: University of Minnesota, Research Coordinating Unit for Vocational Education, October 1976.

Peterson, R. L. Computer helps prepare vocational agriculture teachers. *Towards Better Teaching.* St. Paul: University of Minnesota, *10* (1), Fall 1976.

Peterson, R. L., & Leske, G. W. *A project for developing a curriculum guide for agriculture/agribusiness and natural resources for secondary and post-secondary programs in Minnesota.* St. Paul: University of Minnesota, Department of Vocational and Technical Education, Fall 1976.

Richardson, W. B., & McFadden, J. Employment patterns and earnings of secondary schools vocational education graduates. *American Vocational Education Research Journal,* Fall 1976.

Richardson, W. B., & McFadden, J. Employment patterns and earnings of secondary vocational graduates. *Indiana Technical Report: Series 1,* March 1977.

Tennyson, W. W. *Evaluation report: Pre-service teacher training in career education.* Athens: College of Education, University of Georgia, 1976.

Tennyson, W. W., & Strom, S. *Critical thinking and evaluation with respect to professional functioning: A series of nine learning modules.* Minneapolis: University of Minnesota, College of Education, 1976.

Tennyson, W. W. et al. *Elementary counselor certification suggested implementation guideline.* St. Paul: Minnesota Department of Education, 1977.

Tennyson, W. W. et al. *Secondary counselor certification suggested implementation guideline.* St. Paul: Minnesota Department of Education, 1977.

Wentling, T. L. *A program evaluation plan.* Ann Arbor: University of Michigan, 1977.

Wentling, T. L. A proposed system for the identification, assessment, and evaluation of special needs learners. *Journal of Industrial Teacher Education,* Spring 1977, *14*(3).

Wentling, T. L. The evaluation of career related personnel. In D. P. Garner (Ed.), *The career educator.* Charleston: Eastern Illinois University, 1976.

Wentling, T. L. *Local evaluation.* Final report for Project PAE B1 003. Urbana: University of Illinois, July 1976.

Wentling, T. L. *Statewide evaluation project.* Final report for Project PAE A5 005. Urbana: University of Illinois, July 1976.

Wentling, T. L. *Locally-directed evaluation: Handbook 1.* Springfield: State of Illinois, Illinois Office of Education, 1976.

Wentling, T. L. *Locally-directed evaluation: Handbook 2.* Springfield: State of Illinois, Illinois Office of Education, 1976.

Whiteford, E. B. *Special needs students in regular home economics programs: 1976 survey of selected Minnesota secondary teachers.* Minneapolis: University of Minnesota, Department of Vocational and Technical Education, August 1976.

Whiteford, E. G., & Anderson, D. H. The mainstreaming of special needs students: Home economics teachers are coping. *American Vocational Journal,* May 1977.

INDIVIDUAL FACULTY ACTIVITIES

Richard D. Ashmun

Professor Ashmun serves as Head of the Distributive Education Division. His major teaching efforts have been in curriculum, methods, coordination techniques, and adult programs. He is currently involved in developing standards and criteria for distributive teacher education programs and for postsecondary distributive education programs. He chairs the Research Commission for the Distributive Education Division of the American Vocational Association.

W. Forrest Bear

Professor Bear teaches methods and technical subject matter classes in agricultural mechanics for preservice and inservice teachers of vocational agriculture. His special interests are presently in planning curriculums, facilities, and equipment for agricultural mechanics programs and their promotion at the state and national levels.

David C. Bjorkquist

Professor Bjorkquist serves as Head of the Division of Industrial Education and director of graduate students in industrial education. During the year, he revised and taught a course in supervision and was involved in the expansion of the preservice program for entry-level vocational teachers who come directly from industry.

Marjorie M. Brown

Professor Brown's interests are in theoretical aspects of curriculum, evaluation, and research. She has taught courses in these areas with special application to home economics education. This past year she was engaged in philosophic inquiry which led to a normative position on the conceptual framework and mode of inquiry appropriate to home economics. In addition, she has been conducting theoretical and empirical studies of students' modes of conducting evaluation of courses and of their own learning.

George H. Copa

Professor Copa teaches undergraduate and graduate courses focused on planning and evaluating vocational education programs. His research this year has been directed at assessing social demands for vocational education and defining the linkage between vocational education and the labor market.

Charles R. Hopkins

Professor Hopkins' teaching emphases have centered in the areas of instructional methods in basic business and consumer education, curriculum development, and organization and supervision of business education. His major research efforts have been in the areas of basic business and capstone office education programs. In addition to these aspects of business education, he has authored instructional materials in the areas of accounting and machine shorthand.

Donald E. Irvin, Jr.

Professor Irvin's major instructional emphasis was in the development and conduct of a course in instructional management for industrial education students. His research was devoted primarily to the study of the post-high-school educational and employment status of high school leavers. He was also involved in the development of various components of an information system needed to plan and evaluate vocational education programs in Minnesota.

William A. Kavanaugh

Professor Kavanaugh teaches industrial and vocational curriculum courses and workshops as well as foundations and issues courses in vocational education. During the 1976-77 year, he provided individualized internships and career planning opportunities for new vocational teachers in public and private secondary and postsecondary schools in Minnesota.

Mary K. Klaurens

Professor Klaurens' interests relate to career development, student organization activities, and program articulation in distributive education. During the year, she was involved in developing competency-based tests for high school distributive education programs and working with inservice teachers to implement them. She is also serving on a national commission to develop evaluation and accreditation standards for distributive teacher education programs.

Judith J. Lambrecht

Professor Lambrecht's teaching and research have centered on the areas of shorthand and business data processing. Her interests in office education lie in the areas of curriculum development, teaching methodology, and evaluation. In addition to these aspects of business education, her publications include instructional materials on the application of the metric system in business.

Gary W. Leske

Professor Leske teaches courses in the organization and supervision of occupational experience programs and vocational student organization activities for vocational agriculture students. He has been developing instructional materials on job seeking skills, studying time utilization by sec-

ondary agriculture teachers, and evaluating the occupational experience of undergraduate students in agricultural education.

R. Paul Marvin

Professor Marvin, who is Head of Agricultural Education, teaches planning and evaluation courses in addition to an introductory course for agricultural education majors. He has worked this year with several vocational centers to plan vocational agriculture programs and has completed a final report on the evaluation of agricultural education in Taiwan.

Joan R. McFadden

Professor McFadden serves as Head of Home Economics Education and as coordinator of the "Strengthening Home Economics" statewide project. The primary objectives of this project are to encourage curriculum changes by teachers in secondary home economics programs through inservice education and other incentives. Evaluation of the effectiveness of these approaches to promote change will be the focus of a future research project.

Gary N. McLean

Professor McLean's major areas of interest—both in teaching and in research—continue to focus on instructional formats in typewriting, shorthand, and capstone vocational programs in business and office education. During the past year, he has been actively involved in leadership positions in a number of professional vocational organizations.

Stephen J. Miletich

Professor Miletich supervises the undergraduate laboratory instruction of industrial education majors. He also is responsible for the cooperative and internship experience programs of the Division of Industrial Education.

Jerome Moss, Jr.

Professor Moss serves as Chairperson of the Department. His teaching has been in the area of research methodology. During the year, he has been active in the University Council for Vocational Education, in consulting, and with the state legislature.

Curtis D. Norenberg

Professor Norenberg has been responsible for the development, coordination, scheduling, and staffing of the seven courses on cooperative extension education offered through the Division of Agricultural Education. He serves as a student adviser and consultant for extension education programs and assists with graduate courses in supervised agricultural experience programs and FFA.

Edgar A. Persons

The focus of Professor Persons' instruction and research is adult education in management for both farm and small business entrepreneurs. In addition to undergraduate and graduate instruction, he has been active in disseminating the "Minnesota Model" for adult education in management to other states throughout the United States.

Milo J. Peterson

Professor M. Peterson's activities have centered on working with provisionally certified teachers of agriculture. This is an effort to alleviate the critical shortage of qualified instructors. A total of 170 individuals have been involved; of these, 78 are in the process of working for certification, 36 have completed certification requirements, and 56 have, for one reason or another, dropped.

Roland L. Peterson

Professor R. Peterson teaches an individualized, competency-based, methods-of-teaching vocational agriculture course and supervises student teachers in the fall and winter quarters. He is also involved in teaching inservice courses and the follow-up of beginning and experienced teachers. In addition, his research efforts have been devoted to a time utilization study, development of a skills inventory for teachers, and a competency-based curriculum project for secondary and postsecondary agriculture.

David J. Pucel

Professor Pucel's interests are in the areas of instructional systems development, curriculum development, and research and evaluation in vocational education. Much of his effort for the current year has been devoted to (1) the development of a system to manage the "special services" activities of the Department, (2) the review of the vocational certification course objectives and activities of the Department, and (3) administration of the "special services" activities.

Brandon B. Smith

Professor Smith is the Director of the Minnesota Research and Development Center for Vocational Education. His professional interests include teaching evaluation and research methods, conducting research in vocational teacher education, and providing technical consultation to numerous state and federal agencies, professional organizations, and LEA personnel concerning the conduct of research and development activities.

Gordon I. Swanson

Professor Swanson teaches courses in agricultural education and vocational education, and he acts as the Department director of graduate studies. During the year he also served as president-elect of the American Vocational Association.

W. Wesley Tennyson

Professor Tennyson holds a joint appointment in the Department of Psychoeducational Studies and Vocational and Technical Education. During the year, he was engaged in exploration of inductive and process-oriented models of learning designed to foster critical thinking and valuation. His teaching areas include guidance, career development education, and professional ethics.

Ardell H. Wantoch

Professor Wantoch's major effort during the year has been to assist student county agents to develop a professional level of skill in identifying, gathering, and interpreting selected kinds of demographic data useful in valid program development and implementation.

Tim L. Wentling

Professor Wentling's teaching, research, and service activity has centered on the areas of program evaluation, student assessment, and special needs. His most current research activity has been in program evaluation methodology. The development of cooperative arrangements with special education has also been a recent activity.

Emma B. Whiteford

Professor Whiteford continued her research and development efforts on the preparation of home economics teachers to meet the challenge of mainstreaming special needs students. During the spring quarter, she spent a leave at the University of Illinois and at Ohio State University.

PERSONNEL

FACULTY

Agricultural Education

W. Forrest Bear, Ph.D., Professor. Curriculum development, preparation of instructional materials, instructional techniques.

George H. Copa, Ph.D., Associate Professor. Planning, management, evaluation.

John A. Goodding, Ph.D., Professor, Assistant Director, Resident Instruction—College of Agriculture.

Gary W. Leske, Ph.D., Associate Professor. Supervised occupational experience programs, youth organization, curriculum development.

R. Paul Marvin, Ph.D., Professor and Head. Program planning, administration, evaluation, international education.

Curtis D. Norenberg, Ph.D., Associate Professor. Extension education, instructional and media techniques, youth organizations, program development.

Edgar A. Persons, Ph.D., Professor. Adult education (farm business and small business management), research, teaching methods.

Milo J. Peterson, Ph.D., Professor. Adult education, graduate student study, foundations of vocational education.

Roland Peterson, Ed.D., Associate Professor. Teaching methods, course and curriculum development, inservice education, research.

Gordon I. Swanson, Ph.D., Professor. International vocational education, planning, career education, research.

Business Education

Charles R. Hopkins, Ph.D., Professor and Head. Basic business and economic education, instructional methodology, organization and administration, research.

Judith J. Lambrecht, Ph.D., Assistant Professor. Instructional methods (shorthand), office procedures, model office, accounting and data processing, curriculum development, research.

Gary N. McLean, Ph.D., Associate Professor. Instructional methods (typewriting and shorthand), model and cooperative office education, research.

Distributive Education

Richard D. Ashmun, Ph.D., Professor. Methods, supervision of student teachers, postsecondary and adult programs, administration and supervision, inservice education.

Mary K. Klaurens, Ph.D., Professor. Curriculum development, cooperative vocational programs, career education, student organization, occupational adjustment.

W. Wesley Tennyson, Ed.D., Professor. Counseling psychology, career counseling, career development, curriculum development.

Home Economics Education

Marjorie M. Brown, Ed.D., Professor. Values education, evaluation, research (philosophic inquiry), educational objectives.

Patricia M. Erickson, M.A., Instructor. Program evaluation.

Helen T. Henrie, M.A., Lecturer. Instructional methods (cognitive), curriculum development.

Joan McFadden, Ph.D., Associate Professor and Head. Creative teaching, research, the slow learner and occupational home economics education programs.

Marilyn A. Rossmann, Ph.D., Instructor. Coordination of student teacher's program, instructional methods.

Elizabeth A. Solomon, M.S., Instructor. Development of values.

Margaret M. Torrie, Ed.D., Assistant Professor. Undergraduate adviser, family life education workshops.

Ardell H. Wantoch, M.A., Assistant Professor. Student teaching supervision, field experiences, teaching methods.

Emma B. Whiteford, Ed.D., Professor. Curriculum development, career education, occupational and cooperative education.

Margaret J. Wilsman, M.S., Instructor. Adult education.

Industrial Education

David C. Bjorkquist, Ph.D., Professor and Head. Vocational guidance, instructional methods, curriculum development.

Donald E. Irvin, Jr., Ph.D., Assistant Professor. Instructional methods and materials, research and evaluation.

William A. Kavanaugh, Ph.D., Professor. Foundations of vocational education, course instruction, instructional media, international vocational education.

Stephen J. Miletich, Ph.D., Assistant Professor. Coordination techniques, supervised occupational experience, youth organization.

Jerome Moss, Jr., Ed.D., Professor and Chair. Foundations of vocational education, evaluation, research.

David J. Pucel, Ph.D., Professor. Measurement and evaluation, research, curriculum development, instructional systems.

Brandon B. Smith, Ph.D., Associate Professor and Director, Research Coordinating Unit. Curriculum development, research, evaluation.

Tim L. Wentling, Ph.D., Assistant Professor. Program evaluation, student measurement, curriculum development, research.

VISITING AND ADJUNCT FACULTY

Patrick J. Borich, Ph.D., Adjunct Professor. Agricultural Extension, University of Minnesota.

Paul W. Clements, M.A., Instructor. University of Minnesota Medical School.

Cliff E. Helling, Ph.D., Instructor. Irondale High School, Minneapolis, Minnesota.

Edward G. Hill, Ed.D., Lecturer. North Hennepin County Area Vocational Technical Institute.

Melvin E. Johnson, M.A., Instructor. Minnesota State Department of Education.

Walter R. Kane, M.A., Instructor. Minneapolis Public Schools.

Robert E. Kuhl, M.A., Instructor. Minnesota State Department of Education.

Tom E. Lawson, Ph.D., Lecturer. 3M Company, St. Paul, Minnesota.

Robert M. Madson, M.A., Instructor. Minnesota State Department of Education.

Gerald M. Meleen, B.S., Lecturer. Anoka Hennepin District 11 AVTI.

Ronald L. Olson, M.A., Instructor. Hopkins Eisenhower Senior High School.

Kirby J. Price, B.S., Instructor. Retired instructor — Minneapolis Public Schools.

Carl J. Schaefer, Ph.D., Visiting Professor. Rutgers University, New Jersey.

William E. Stock, Ph.D., Instructor. Minnesota State Department of Education.

Milo N. Sulentic, Ph.D., Visiting Associate Professor. Moorhead (Minnesota) State College.

Robert J. Svare, M.S., Instructor. Anoka Hennepin, District 11 AVTI.

Robert P. Vantries, M.S., Adjunct Professor. Minnesota State Department of Education.

Louis G. Wagner, Ph.D., Adjunct Assistant Professor. Agricultural Extension, University of Minnesota.

Wesley K. Wharton, Ph.D., Adjunct Professor. College of Agriculture, University of Minnesota.

PART-TIME FACULTY

Mary Jane Anderson, B.S., Teaching Assistant, Division of Home Economics Education.

Ronald A. Anderson, B.S., Instructor, Division of Distributive Education.

Kian Aziz Ashrafzaden, M.S., Teaching Assistant, Division of Industrial Education.

Carolyn M. Barnhart, B.S., Administrative Fellow, Department of Vocational and Technical Education.

Jacqueline Clancy, B.S., Research Assistant, Division of Home Economics Education.

Catherine A. Coury, B.S., Teaching Assistant, Division of Business Education.

Joyce DeBoe, M.S., Teaching Assistant, Division of Home Economics Education.

Ronald C. Dreyer, M.A., Research Fellow, Minnesota Research Coordinating Unit.

James J. Duffey, M.A., Research Fellow, Minnesota Research Coordinating Unit.

William E. Field, M.S., Teaching Assistant, Division of Agricultural Education.

Joan K. Flood, B.S., Instructor, Division of Business Education.

Gary D. Forsberg, M.S., Instructor, Division of Industrial Education.

Steven R. Frederickson, B.S., Instructor, Division of Industrial Education.

David B. Freedman, B.S., Instructor, Division of Industrial Education.

Leslie J. Froiland, B.A., Instructor, Division of Business Education.

Rosemary T. Fruehling, M.A., Instructor, Division of Distributive Education.

Patrick Chefu Fusi, M.A., Research Fellow, Minnesota Research Coordinating Unit.

Stephen B. Galey, M.A., Research Fellow, Minnesota Research Coordinating Unit.

Erwin K. Geigle, M.S., Research Fellow, Minnesota Research Coordinating Unit.

James P. Greenan, M.Ed., Instructor, Division of Industrial Education.

Katy L. Greenwood, M.Ed., Administrative Fellow, Division of Agricultural Education.

Evelyn S. Hollinger, M.A., Instructor, Division of Business Education.

Chang C. Hsia, B.B.A., Teaching Assistant, Division of Business Education.

Dwight E. Hyle, M.S., Research Fellow, Division of Agricultural Education.

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William Stock, Ph.D., Instructor, Division of Industrial Education.

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LeRoy C. Thompson, B.S., Administrative Fellow, Division of Industrial Education.

Sawat Udompoch, M.A., Teaching Assistant, Division of Industrial Education and Department of Vocational and Technical Education.

Janine A. Watts, M.S., Teaching Assistant, Division of Home Economics Education.

Louise Wierschem, B.S., Teaching Assistant, Division of Home Economics Education.

SUPPORT STAFF

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Marsha I. Davidson, Principal Secretary, Department of Vocational and Technical Education.

Sandi L. Emmerson, Principal Secretary, Division of Industrial Education.

Marilyn R. Ford, Principal Secretary, Minnesota Research Coordinating Unit.

Claire E. Furlong, Senior Clerk Typist, Division of Agricultural Education.

Clare A. Gravon, Senior Secretary, Divisions of Business Education and Distributive Education.

Kay E. Gunderson, Senior Secretary, Division of Home Economics Education.

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Laura J. Pommier, Senior Clerk Typist, Division of Agricultural Education.

Marilyn M. Selb, Senior Clerk Typist, Minnesota Research Coordinating Unit.

Deanna A. Smith, Senior Executive Secretary, Department of Vocational and Technical Education.

Jeanine Stage, Principal Secretary, Division of Agricultural Education.

Virginia P. Tagtow, Senior Secretary, Division of Home Economics Education.

Joanne A. Walker, Seninr Clerk Typist, Division of Industrial Education.

Jean M. Ubl, Senior Secretary, Department of Vocational and Technical Education.

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